

V.C. Summer Unit 2 Findings

Design Engineering

Identified By: NRC

Identification Date: 06/10/2015

Significance: Green

Item Type: Construction Finding

Failure to verify a design change did not adversely impact the containment vessel

Green: The NRC identified a construction finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for inadvertently damaging the Unit 2 containment vessel bottom head (CVBH) as a result of the failure by SCE&G, through their contractors CB&I Power and Westinghouse Electric Company (WEC), to adequately verify a design change that was implemented for post-installing safety-related rebar and coring into concrete. No immediate corrective actions were necessary to alleviate immediate safety or security concerns. Subsequent corrective actions to repair the CVBH have been completed. The licensee entered this issue into their corrective action program as CR-NND-15-00539.

The finding was associated with the Design/Engineering cornerstone. The inspectors determined the performance deficiency was more than minor because it represented an adverse condition that rendered the quality of an SSC unacceptable or indeterminate, and required substantive corrective action. The inspectors evaluated the finding using the construction SDP in accordance with IMC 2519, "Construction Significance Determination Process," Appendix A, "AP 1000 Construction Significance Determination Process" and determined that the finding was of very low safety significance (Green) because it was associated with a portion of a structure assigned to the intermediate risk importance column and Row 1 of the construction significance determination matrix. The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with Appendix F, "Construction Cross-Cutting Areas and Aspects" of IMC 0613. This finding has a cross-cutting aspect in the area of Human Performance, Work Management aspect, because the licensee failed to adequately identify and manage risk commensurate to the work and did not adequately coordinate different groups or job activities. [H.5].

Identified By: NRC

Identification Date: 03/31/2015

Significance: Green

Item Type: ITAAC Finding

Failure to include a design input into a design analysis document for the Unit 2 Auxiliary Building Internal Structures

The inspectors identified an ITAAC finding of very low safety significance (Green) and associated non-cited violation (NCV) of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control" for South Carolina Electric and Gas' (SCE&G) failure, through their contractor Westinghouse, to include a design input into a design analysis document. The licensee entered this issue into their corrective action program as CR-NND-15-00496.

The finding was associated with the Design/Engineering cornerstone. The inspectors determined the performance deficiency was more than minor because it represented a non-conservative error in a calculation that defines the technical requirements for the Unit 2 wall on column line 2 located in the radiologically controlled area of the Auxiliary Building. The inspectors evaluated the finding using the construction significance determination process and determined the finding was of very low safety significance (Green) because the licensee demonstrated, with reasonable assurance by design analysis,

that the wall would have been able to meet its design function. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 763 (3.3.00.02a.i.d). The acceptance criteria of this ITAAC requires that a reconciliation report, concluding the "as-built" construction conforms to the approved design, is completed for the areas associated with the ITAAC. This finding is associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC. This finding has a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because the licensee failed to follow procedures associated with the control of design inputs for design analysis documents [H.8].

Identified By: NRC

Identification Date: 12/31/2014

Significance: Green

Item Type: ITAAC Finding

Failure to Correctly Translate CA20 Module to Basemat Connection Requirements into Design Documents

The inspectors identified an ITAAC finding of very low safety significance (Green) and associated non-cited violation (NCV) of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control" for South Carolina Electric and Gas' (SCE&G) failure, through their contractor Westinghouse, to correctly translate design basis into specifications, drawings, procedures, and instructions. Specifically, the inspectors observed that the design did not conform to the requirements of ANSI/AISC N690-94, "American National Standard Specification for the Design, Fabrication, and Erection of Steel Safety-Related Structures for Nuclear Facilities," a Tier 2* licensing commitment for Seismic Category I structures, in that loose "shim" or "filler" plates greater than ¼ inch thickness were installed between the connection brackets and embed plates in the NI basemat. For bolted construction, ANSI/AISC N690-94 Section Q1.15.6, "Fillers" requires that when fillers thicker than ¼ inch are used in bearing connections, the filler be rigidly attached to one of the connecting elements to preclude inducing bending in the bolts due to the eccentricity between connecting elements. The licensee entered this issue into their corrective action program as CR-NND-14-01411.

The finding was associated with the Design/Engineering cornerstone. The inspectors determined the performance deficiency was more than minor because it represented a substantive non-conservative error in a design document that defines the technical requirements for the structural modules in the auxiliary building. The inspectors evaluated the finding using the construction significance determination process and determined the finding was of very low safety significance (Green) because the licensee was able to demonstrate with reasonable assurance that the design function of the applicable structure would not be impaired by the deficiency. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 763 (3.3.00.02a.i.d). The acceptance criteria of this ITAAC requires that a reconciliation report, concluding the "as-built" construction conforms to the approved design, is completed for the areas associated with the ITAAC. This finding is associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC. The inspectors screened the finding for a possible construction cross-cutting aspect (CCA) and determined that it was not related to any of the CCA discussed in IMC 0613.

Identified By: NRC

Identification Date: 02/12/2013

Significance: Green

Item Type: ITAAC Finding

Failure to correctly translate requirements for Anchorage and Spacing of Headed Shear Reinforcement in Structural Components of the Nuclear Island into design specifications,

drawings, procedures, and instructions.

The inspectors identified a green finding and NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the licensee's failure to assure that applicable regulatory requirements were correctly translated into design specifications, drawings, procedures, and instructions. The inadequacy resulted in multiple instances where the design of anchorage and spacing of the headed shear reinforcement for structural components of the nuclear island (NI) did not comply with the provisions of the "Code Requirements for Nuclear Safety Related Concrete Structures (ACI 349-01)," as required by the Updated Final Safety Analysis Report (UFSAR). While the design of portions of the nuclear island basemat and wall structures failed to meet the requirements of the UFSAR and ACI 349-01 for the design and spacing for shear reinforcement, the design function of the impacted structure was not impaired, even if completed as initially proposed. That is, the structures would have still performed their intended safety function.

The circumstances surrounding the violation were described in detail in inspection report 05200027/2013-008. The reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date for full compliance were well communicated to the agency during the Regulatory Conference held on April 30, 2013. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as PIP 0-L-12-0610, this violation is being treated as a non-cited violation (NCV), consistent with the Enforcement Policy.

Identified By: NRC
Identification Date: 09/30/2012
Significance: Green
Item Type: ITAAC Finding

ITAAC Finding for Failure to Translate CA01 and CA20 Design Requirements Into Specifications and Drawings

The inspectors identified an ITAAC finding of very low safety significance (Green) and associated cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that regulatory requirements and the design basis for systems, structures, and components were correctly translated into drawings and procedures associated with the shear stud spacing for Unit 2 safety related sub-modules. The licensee entered this issue into their corrective action program as PIP-0-L-12-0251 to evaluate the issue and to develop and implement corrective actions to address the violation.

The performance deficiency was considered more than minor because it could adversely affect the closure of Unit 2 ITAAC 3.3.00.02a.i.a and 3.3.00.02a.i.d and was associated with the Design/Engineering cornerstone. The finding was evaluated under the construction significance determination process as outlined in IMC 2519P, Appendix A. The finding was of very low safety significance (Green) because the performance deficiency did not impair the design function of the structure. The inspectors determined that this finding was not related to any of the construction safety focus component aspects discussed in IMC 0613P.

Procurement/Fabrication

Identified By: NRC
Identification Date: 06/30/2014
Significance: Green
Item Type: ITAAC Finding

ITAAC Finding for Failure to Assure Purchased Equipment Met Procurement and ITAAC Requirements

Green. The inspectors identified an ITAAC finding of very low safety significance (Green) and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment and Services," for South Carolina Electric and Gas' (SCE&G) failure to assure purchased equipment met procurement and ITAAC requirements. The licensee entered this issue into their corrective action program as CR-NND-14-00362.

The finding was associated with the Procurement/Fabrication cornerstone. The inspectors determined the performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, Example 4. Specifically, the inspectors identified that the licensee failed to maintain quality-related records in accordance with quality assurance (QA) program requirements that precluded the licensee from demonstrating the ability of a safety significant structure, system, or component (SSC) to meet an ITAAC as required by the contract. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 190.

The inspectors screened the finding for a possible construction safety focus component (CSFC) aspect in accordance with Appendix F, "Construction Safety Focus Components and Aspects," of IMC 0613, "Power Reactor Construction Inspection Reports." This finding has a cross-cutting aspect in the area of baseline inspection, decision making because the licensee did not properly conduct effectiveness reviews (e.g. self-assessments or audits) to verify underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions. Specifically, the licensee reviewed the calculation provided by Westinghouse as part of the ITAAC 190 closure package and failed to determine whether records existed to verify the underlying assumptions. [A.1(b)]

Identified By: NRC

Identification Date: 09/30/2012

Significance: Green

Item Type: ITAAC Finding

Failure to Assure Safety Related Materials Conformed to the Procurement Documents

The inspectors identified a Green construction finding and cited violation of 10 CFR 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services," for the licensee's failure to assure that purchased material and equipment (embedded plates), purchased through contractors and subcontractors, conformed to procurement documents. The licensee entered this issue into their corrective action programs as VCS-ND-12-0419 and CR 0-L-2012-0583 to evaluate the issue and to develop and implement corrective actions to address the violation.

The performance deficiency was considered more than minor because, if left uncorrected, it represented a failure to establish and implement an adequate program and quality oversight function that could render the quality of construction activities unacceptable or indeterminate. The finding was associated with the procurement/fabrication cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P, Appendix A. The inspectors determined the finding was of very low safety significance (Green) because the finding: (1) was associated with a structure (basemat) in the intermediate risk column of the risk importance table; and (2) impaired a portion of the structures design function. The inspectors determined that this finding had a cross-cutting aspect in the area of Baseline Inspection, Work Control (A.4.c), because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that construction quality is supported.

Construction/Installation

Identified By: NRC

Identification Date: 06/30/2015

Significance: Green

Item Type: ITAAC Finding

Failure to Incorporate Grout Strength Acceptance Limits from Engineering Documents

Green. The inspectors identified an ITAAC finding of very low safety significance (Green) and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control" for a potential unanalyzed structural defect as a result of a failure by South Carolina Electric and Gas' (SCE&G) through their contractor Chicago Bridge and Iron (CB&I) Power, to incorporate the appropriate grout compressive strength acceptance limits into the testing of grout used for post-installed anchors. No immediate corrective actions were necessary to address safety or security concerns. The licensee entered this issue into their corrective action program as CR-NND-15-00763.

The inspectors determined the performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, Example 11. The inspectors evaluated the finding using the construction significance determination process and determined the finding was of very low safety significance (Green) because it was associated with a portion of a structure assigned to the intermediate risk importance and Row 2 of the construction significance determination matrix. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAACs 760 (3.3.00.02a.i.a) and 763 (3.3.00.02a.i.d). The acceptance criteria of these ITAACs requires that a reconciliation report is completed that concludes the "as-built" construction conforms to the approved design. This finding is associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAACs. The inspectors screened the finding for a possible construction safety focus component aspect in accordance with Appendix F, "Cross-cutting Areas and Aspects," of IMC 0613, "Power Reactor Construction Inspection Reports." This finding has a cross-cutting aspect in the area of Human Performance, Procedure Adherence Aspect, because the licensee failed to follow the processes, procedures, and work instructions contained in the applicable engineering documents. [H.8].

Identified By: NRC

Identification Date: 06/30/2015

Significance: Green

Item Type: Construction Finding

Failure to Perform Required QC Visual Examinations of In-Process Welding

Green. The inspectors identified a construction finding of very low safety significance (Green) and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for SCE&G's failure through their contractor CB&I Power, to accomplish safety-related, required quality control inspections. The inspections were required by CB&I QC inspection plans F-S561-007, "AWS D1.1 – Visual Weld Inspection - Carbon Steel" and F-S561-008, "AWS D1.6 - Visual Weld Inspection - Stainless Steel." The licensee entered this issue into their corrective action program as CRNND-15-00927.

The finding was associated with the Construction/Installation cornerstone. The inspectors determined the performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, because the issue represented a substantive failure to implement an adequate quality oversight function. Specifically, routine welding inspections were not performed by the licensee's contractor for a seven month period. The inspectors utilized Appendix A of IMC 2519, "Construction Significance Determination Process," to evaluate the finding. The inspectors determined that the finding was of very low safety significance (Green) because other pre-weld inspections including material identification, fit up, cleanliness, welder qualification, filler material, and proper post-weld non-destructive examinations including visual, magnetic particle and ultrasonic testing were completed that gave reasonable assurance the structure will meet its design function and a use-as-is determination can be made without a detailed analysis.

The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with

Appendix F, "Cross-Cutting Areas and Aspects" of IMC 0613. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, because the licensee failed to ensure that effective corrective action was taken on CAR 2014-0025 "Documentation of Fit-Up and In-Process Weld Inspections". [P.3]

Identified By: NRC

Identification Date: 06/10/2015

Significance: Green

Item Type: ITAAC Finding

Failure to implement procedures for coring concrete and post installing anchors

Green: The NRC identified an Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for damage to safety related structural rebar as a result of failure by South Carolina Electric and Gas (SCE&G), through their contractor Chicago Bridge & Iron (CB&I) Power, to implement appropriate procedures for coring into concrete. No immediate corrective actions were necessary to alleviate immediate safety or security concerns. Subsequent corrective actions to evaluate damaged safety-related rebar have been completed. The licensee entered this issue into their corrective action program as CR-NND-15-00539.

The finding was associated with the Construction/Installation cornerstone. The inspectors determined the performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, Example 16. The inspectors evaluated the finding in accordance with IMC 2519, "Construction Significance Determination Process," Appendix A, "AP 1000 Construction Significance Determination Process," and determined the finding was of very low safety significance (Green) because it was associated with a portion of a structure assigned to the intermediate risk importance column, and Row 2, of the construction significance determination matrix. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 760 (3.3.00.02a.i.a). The acceptance criteria of this ITAAC requires that a reconciliation report is completed that concludes the "as-built" construction conforms to the approved design. At the time of the inspection, this finding was associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC; however, as of the writing of this report, the associated deviations have been adequately reconciled. The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with Appendix F, "Cross-cutting Areas and Aspects," of IMC 0613. This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency aspect because the licensee failed to adequately develop a process which would recognize and plan for the possibility of mistakes. [H.12].

Identified By: NRC

Identification Date: 06/30/2013

Significance: Green

Item Type: Construction Finding

Failure to Document and Process a Nonconformance

The inspectors identified a technical finding and non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, for the licensee's failure to identify, evaluate, and correct nonconforming steel reinforcing bars in accordance with documented procedures. The licensee initiated condition report (CR) NND-13-00448 to document this finding in their corrective action program.

This performance deficiency had a greater than minor safety significance because it was similar to the "not minor if" statement of construction issue example 19 in Appendix E to IMC 0613P. The finding was a

technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P, Appendix A. This finding was of very low safety significance (Green) because it was determined to be a construction finding and was dispositioned use-as-is. This finding was associated with the Procedural Compliance aspect in the Work Practices component of the construction cross-cutting area of Baseline Inspection.

Identified By: NRC
Identification Date: 6/30/2013
Significance: Green
Item Type: Construction Finding

Failure to correct conditions adverse to quality

The inspectors identified a technical finding and NCV of 10 CFR 50, Appendix B, Criterion XVI for the licensee's failure to ensure that conditions adverse to quality were corrected. The licensee initiated CR NND-13-00575 and nonconformance and disposition (N&D) report VS2-CE50-GNR-000016 to document this finding in their corrective action program.

This performance deficiency had greater than minor safety significance because the uncorrected conditions could render the quality of construction activities and installed items unacceptable or indeterminate. The finding was a technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P, Appendix A. This finding was of very low safety significance (Green) because the identified condition did not impair the design function of a system or structure listed in the construction significance determination process risk importance table. This finding was associated with the Human Error Prevention Techniques aspect in the Work Practices component of the construction cross cutting area of Baseline Inspection.

Identified By: NRC
Identification Date: 12/31/2012
Significance: Green
Item Type: Technical Finding

Failure to adequately implement procedure guidance for evaluating, classifying, and correcting conditions adverse to quality

The inspectors identified a technical finding and cited violation (VIO) of 10 CFR Part 50, Appendix B, Criterion V, for the failure to properly categorize Shaw CAR 2010-12-08-971 as a significant condition adverse to quality.

This performance deficiency had greater than minor safety significance because the uncorrected conditions could render the quality of construction activities unacceptable or indeterminate. The finding was a technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P Appendix A. This finding was of very low safety significance (Green) because the identified condition did not impair the design function of a system or structure listed in the construction significance determination process risk importance table. This finding was not associated with a construction cross cutting aspect.

Identified By: NRC
Identification Date: 12/31/2012
Significance: Green
Item Type: Technical Finding

Failure to adequately evaluate and correct conditions adverse to quality

The inspectors identified a technical finding and cited violation (VIO) of 10 CFR Part 50, Appendix B, Criterion XVI, for three examples of the licensee's failure to promptly correct conditions adverse to quality in accordance with regulatory requirements and applicable quality standards.

This performance deficiency had greater than minor safety significance because the uncorrected conditions could render the quality of construction activities unacceptable or indeterminate. The finding was a technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P Appendix A. This finding was of very low safety significance (Green) because the identified condition did not impair the design function of a system or structure listed in the construction significance determination process risk importance table. This finding was directly related to the construction cross cutting area of baseline inspection and the Corrective Action Program component because the licensee's engineering, procurement, and construction consortium failed to adequately evaluate and correct conditions adverse to quality.

Identified By: NRC

Identification Date: 09/30/2012

Significance: Green

Item Type: Construction Finding

Failure to Transfer Containment Coating Testing Requirements into Specifications

The inspectors identified a Green construction finding and cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to ensure that an element of the design basis (methyl ethyl ketone rub test), as specified in the license application, was correctly translated into specifications. This issue was entered into the corrective action program as IR-12-216-M010 and CR-2012-00499 to evaluate the issue and to develop and implement corrective actions to address the violation.

This performance deficiency had greater than minor safety significance because the failure to perform the rub test, if left uncorrected, represented a failure to establish, implement or maintain an adequate process, program, procedure, or quality oversight function that could render the quality of the construction activity unacceptable or indeterminate. Specifically, the rub test, if left unperformed, represented a failure to ensure that the coating would be adequately cured and that the coating would perform its intended safety function. The finding was associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P, Appendix A. The inspectors determined the finding was of very low safety significance (Green) because the finding was associated with a system in the low risk column of the risk importance table and was not a repetitive significant condition adverse to quality. The inspectors determined that this finding had a cross-cutting aspect in the area of Baseline Inspection, Resources (A.2.b), because the licensee did not ensure that procedures were available and adequate to assure construction quality.

Identified By: NRC

Identification Date: 06/30/2012

Significance: Green

Item Type: Programmatic Finding

Failure to Establish an Adequate Authentication Process for Records in Electronic Media

The inspectors identified a Green programmatic finding and cited violation of 10 CFR Part 50, Appendix B, Criterion XVII, Quality Assurance Records, for failing to adequately assure that records established in

electronic media were sufficient to furnish evidence of activities affecting quality. The licensee issued Condition Report 2012-0283 to address this issue and began a complete review of quality assurance records that have been converted into electronic format.

This performance deficiency had greater than minor safety significance because the failure to adequately authenticate the content of quality assurance records, if uncorrected, could lead to loss of information that could render the quality of a construction activity unacceptable or indeterminate. As a result, the deficiency could preclude the licensee from being able to take appropriate action on safety-significant matters. The finding was associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in Inspection Manual Chapter 2519P Appendix A. The finding was a non-technical programmatic finding associated with the quality assurance records program verification of a critical attribute related to accurately recording activities affecting quality. This finding is of very low safety significance (Green) because it is not a repetitive programmatic finding. The inspectors did not identify a cross-cutting aspect associated with this finding.

Inspection/Testing

Security Programs

Operational Programs
